



Q1

Sub  
B1

# SEQUENCE LISTING

TECH CENTER 1600/2900

MAY 21 2002

RECEIVED

<110> ENDOU, Hitoshi  
KANAI, Yoshikatsu  
SEKINE, Takashi  
HOSOYAMADA, Makoto

<120> ORGANIC ANION TRANSPORTER AND GENE  
CODING FOR THE SAME

<130> 49429 (71526)

<140> 09/424,347

<141> 2000-07-18

<150> PCT/JP98/02171

<151> 1998-05-18

<160> 4

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 2171

<212> DNA

<213> Rat

<220>

<221> CDS

<222> (268)... (1956)

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gcagctcgga ctcagctccc ggagcaatcc agctgcggag gcaacggcag tgctgctcct 180  
ccagcgaagg acagcaggca ggcagacaga cagaggtcct gggactggaa ggcctcagcc 240  
cccagccact gggctggggc tggccca atg gcc ttt aat gac ctc ctg cag cag 294  
Met Ala Phe Asn Asp Leu Leu Gln Gln  
1 5

gtg ggg ggt gtc ggc cgc ttc cag cag atc cag gtc acc ctg gtg gtc 342  
Val Gly Gly Val Gly Arg Phe Gln Gln Ile Gln Val Thr Leu Val Val  
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ctc ccc ctg ctc ctg atg gct tct cac aac acc ctg cag aac ttc act 390  
Leu Pro Leu Leu Leu Met Ala Ser His Asn Thr Leu Gln Asn Phe Thr  
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gct gcc atc cct acc cac cac tgc cgc cgg cct gcc gat gcc aac ctc 438  
Ala Ala Ile Pro Thr His His Cys Arg Pro Pro Ala Asp Ala Asn Leu  
45 50 55

agc aag aac ggg ggg ctg gag gtc tgg ctg ccc cgg gac agg cag ggg 486  
Ser Lys Asn Gly Gly Leu Glu Val Trp Leu Pro Arg Asp Arg Gln Gly  
60 65 70

cag cct gag tcc tgc ctc cgc ttc acc tcc ccg cag tgg gga ctg ccc 534  
 Gln Pro Glu Ser Cys Leu Arg Phe Thr Ser Pro Gln Trp Gly Leu Pro  
 75 80 85  
 ttt ctc aat ggc aca gaa gcc aat ggc aca ggg gcc aca gag ccc tgc 582  
 Phe Leu Asn Gly Thr Glu Ala Asn Gly Thr Gly Ala Thr Glu Pro Cys  
 90 95 100 105  
 acc gat ggc tgg atc tat gac aac agc acc ttc cca tct acc atc gtg 630  
 Thr Asp Gly Trp Ile Tyr Asp Asn Ser Thr Phe Pro Ser Thr Ile Val  
 110 115 120  
 act gag tgg gac ctt gtg tgc tct cac agg gcc cta cgc cag ctg gcc 678  
 Thr Glu Trp Asp Leu Val Cys Ser His Arg Ala Leu Arg Gln Leu Ala  
 125 130 135  
 cag tcc ttg tac atg gtg ggg gtg ctg ctc gga gcc atg gtg ttc ggc 726  
 Gln Ser Leu Tyr Met Val Gly Val Leu Leu Gly Ala Met Val Phe Gly  
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 tac ctt gca gac agg cta ggc cgc cgg aag gta ctc atc ttg aac tac 774  
 Tyr Leu Ala Asp Arg Leu Gly Arg Arg Lys Val Leu Ile Leu Asn Tyr  
 155 160 165  
 ctg cag aca gct gtg tca ggg acc tgc gca gcc ttc gca ccc aac ttc 822  
 Leu Gln Thr Ala Val Ser Gly Thr Cys Ala Ala Phe Ala Pro Asn Phe  
 170 175 180 185  
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 Pro Ile Tyr Cys Ala Phe Arg Leu Leu Ser Gly Met Ala Leu Ala Gly  
 190 195 200  
 atc tcc ctc aac tgc atg aca ctg aat gtg gag tgg atg ccc att cac 918  
 Ile Ser Leu Asn Cys Met Thr Leu Asn Val Glu Trp Met Pro Ile His  
 205 210 215  
 aca cgg gcc tgc gtg ggc acc ttg att ggc tat gtc tac agc ctg ggc 966  
 Thr Arg Ala Cys Val Gly Thr Leu Ile Gly Tyr Val Tyr Ser Leu Gly  
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 cag ttc ctc ctg gct ggt gtg gcc tac gct gtg ccc cac tgg cgc cac 1014  
 Gln Phe Leu Leu Ala Gly Val Ala Tyr Ala Val Pro His Trp Arg His  
 235 240 245  
 ctg cag cta ctg gtc tct gcg cct ttt ttt gcc ttc ttc atc tac tcc 1062  
 Leu Gln Leu Leu Val Ser Ala Pro Phe Phe Ala Phe Phe Ile Tyr Ser  
 250 255 260 265  
 tgg ttc ttc att gag tgc gcc cgc tgg cac tcc tcc tcc ggg agg ctg 1110  
 Trp Phe Phe Ile Glu Ser Ala Arg Trp His Ser Ser Ser Gly Arg Leu  
 270 275 280  
 gac ctc acc ctg agg gcc ctg cag aga gtc gcc cgg atc aat ggg aag 1158  
 Asp Leu Thr Leu Arg Ala Leu Gln Arg Val Ala Arg Ile Asn Gly Lys  
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 cgg gaa gaa gga gcc aaa ttg agt atg gag gta ctc cgg gcc agt ctg 1206

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Gln Lys Glu Leu Thr Met Gly Lys Gly Gln Ala Ser Ala Met Glu Leu  
315 320 325

ctg cgc tgc ccc acc ctc cgc cac ctc ttc ctc tgc ctc tcc atg ctg 1302  
Leu Arg Cys Pro Thr Leu Arg His Leu Phe Leu Cys Leu Ser Met Leu  
330 335 340 345

tgg ttt gcc act agc ttt gca tac tat ggg ctg gtc atg gac ctg cag 1350  
Trp Phe Ala Thr Ser Phe Ala Tyr Tyr Gly Leu Val Met Asp Leu Gln  
350 355 360

ggc ttt gga gtc agc atc tac cta atc cag gtg atc ttt ggt gct gtg 1398  
Gly Phe Gly Val Ser Ile Tyr Leu Ile Gln Val Ile Phe Gly Ala Val  
365 370 375

gac ctg cct gcc aag ctt gtg ggc ttc ctt gtc atc aac tcc ctg ggt 1446  
Asp Leu Pro Ala Lys Leu Val Gly Phe Leu Val Ile Asn Ser Leu Gly  
380 385 390

cgc cgg cct gcc cag atg gct gca ctg ctg ctg gca ggc atc tgc atc 1494  
Arg Arg Pro Ala Gln Met Ala Ala Leu Leu Leu Ala Gly Ile Cys Ile  
395 400 405

ctg ctc aat ggg gtg ata ccc cag gac cag tcc att gtc cga acc tct 1542  
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410 415 420 425

ctt gct gtg ctg ggg aag ggt tgt ctg gct gcc tcc ttc aac tgc atc 1590  
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430 435 440

ttc ctg tat act ggg gaa ctg tat ccc aca atg atc cgg cag aca ggc 1638  
Phe Leu Tyr Thr Gly Glu Leu Tyr Pro Thr Met Ile Arg Gln Thr Gly  
445 450 455

atg gga atg ggc agc acc atg gcc cga gtg ggc agc atc gtg agc cca 1686  
Met Gly Met Gly Ser Thr Met Ala Arg Val Gly Ser Ile Val Ser Pro  
460 465 470

ctg gtg agc atg act gcc gag ctc tac ccc tcc atg cct ctc ttc atc 1734  
Leu Val Ser Met Thr Ala Glu Leu Tyr Pro Ser Met Pro Leu Phe Ile  
475 480 485

tac ggt gct gtt cct gtg gcc gcc agc gct gtc act gtc ctc ctg cca 1782  
Tyr Gly Ala Val Pro Val Ala Ala Ser Ala Val Thr Val Leu Leu Pro  
490 495 500 505

gag acc ctg ggc cag cca ctg cca gac acg gtg cag gac ctg gag agc 1830  
Glu Thr Leu Gly Gln Pro Leu Pro Asp Thr Val Gln Asp Leu Glu Ser  
510 515 520

agg tgg gcc ccc act cag aaa gaa gca ggg ata tat ccc agg aaa ggg 1878  
Arg Trp Ala Pro Thr Gln Lys Glu Ala Gly Ile Tyr Pro Arg Lys Gly

R1

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B1  
cont

525

530

535

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 540 545 550

1926

cag gcc tca gca caa gag aag aat gga ctc tgaggactga gaaggggcct  
 Gln Ala Ser Ala Gln Glu Lys Asn Gly Leu  
 555 560

1976

tacagaaccc taaagggagg gaaggtccta caggtctccg gccacccaca caaggaggag 2036  
 gaagaggaaa tggtagacca agtgtggggg ttgtggttca ggaaagcatc ttcccagggg 2096  
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 Ser His Asn Thr Leu Gln Asn Phe Thr Ala Ala Ile Pro Thr His His  
 35 40 45  
 Cys Arg Pro Pro Ala Asp Ala Asn Leu Ser Lys Asn Gly Gly Leu Glu  
 50 55 60  
 Val Trp Leu Pro Arg Asp Arg Gln Gly Gln Pro Glu Ser Cys Leu Arg  
 65 70 75 80  
 Phe Thr Ser Pro Gln Trp Gly Leu Pro Phe Leu Asn Gly Thr Glu Ala  
 85 90 95  
 Asn Gly Thr Gly Ala Thr Glu Pro Cys Thr Asp Gly Trp Ile Tyr Asp  
 100 105 110  
 Asn Ser Thr Phe Pro Ser Thr Ile Val Thr Glu Trp Asp Leu Val Cys  
 115 120 125  
 Ser His Arg Ala Leu Arg Gln Leu Ala Gln Ser Leu Tyr Met Val Gly  
 130 135 140  
 Val Leu Leu Gly Ala Met Val Phe Gly Tyr Leu Ala Asp Arg Leu Gly  
 145 150 155 160  
 Arg Arg Lys Val Leu Ile Leu Asn Tyr Leu Gln Thr Ala Val Ser Gly  
 165 170 175  
 Thr Cys Ala Ala Phe Ala Pro Asn Phe Pro Ile Tyr Cys Ala Phe Arg  
 180 185 190  
 Leu Leu Ser Gly Met Ala Leu Ala Gly Ile Ser Leu Asn Cys Met Thr  
 195 200 205  
 Leu Asn Val Glu Trp Met Pro Ile His Thr Arg Ala Cys Val Gly Thr  
 210 215 220  
 Leu Ile Gly Tyr Val Tyr Ser Leu Gly Gln Phe Leu Leu Ala Gly Val  
 225 230 235 240  
 Ala Tyr Ala Val Pro His Trp Arg His Leu Gln Leu Leu Val Ser Ala  
 245 250 255  
 Pro Phe Phe Ala Phe Phe Ile Tyr Ser Trp Phe Phe Ile Glu Ser Ala  
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 275 280 285

A1

Sub  
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 305 310 315 320  
 Lys Gly Gln Ala Ser Ala Met Glu Leu Leu Arg Cys Pro Thr Leu Arg  
 325 330 335  
 His Leu Phe Leu Cys Leu Ser Met Leu Trp Phe Ala Thr Ser Phe Ala  
 340 345 350  
 Tyr Tyr Gly Leu Val Met Asp Leu Gln Gly Phe Gly Val Ser Ile Tyr  
 355 360 365  
 Leu Ile Gln Val Ile Phe Gly Ala Val Asp Leu Pro Ala Lys Leu Val  
 370 375 380  
 Gly Phe Leu Val Ile Asn Ser Leu Gly Arg Arg Pro Ala Gln Met Ala  
 385 390 395 400  
 Ala Leu Leu Leu Ala Gly Ile Cys Ile Leu Leu Asn Gly Val Ile Pro  
 405 410 415  
 Gln Asp Gln Ser Ile Val Arg Thr Ser Leu Ala Val Leu Gly Lys Gly  
 420 425 430  
 Cys Leu Ala Ala Ser Phe Asn Cys Ile Phe Leu Tyr Thr Gly Glu Leu  
 435 440 445  
 Tyr Pro Thr Met Ile Arg Gln Thr Gly Met Gly Met Gly Ser Thr Met  
 450 455 460  
 Ala Arg Val Gly Ser Ile Val Ser Pro Leu Val Ser Met Thr Ala Glu  
 465 470 475 480  
 Leu Tyr Pro Ser Met Pro Leu Phe Ile Tyr Gly Ala Val Pro Val Ala  
 485 490 495  
 Ala Ser Ala Val Thr Val Leu Leu Pro Glu Thr Leu Gly Gln Pro Leu  
 500 505 510  
 Pro Asp Thr Val Gln Asp Leu Glu Ser Arg Trp Ala Pro Thr Gln Lys  
 515 520 525  
 Glu Ala Gly Ile Tyr Pro Arg Lys Gly Lys Gln Thr Arg Gln Gln Gln  
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 Asn Gly Leu

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 gcagctcgga ctcagctccc ggagcaaccc agctgcggag gcaacggcag tgctgtctct 180  
 ccagcgaagg acagcaggca ggcagacaga cagaggtcct gggactggaa ggcctcagcc 240  
 cccagccact gggctgggcc tggccca atg gcc ttt aat gac ctc ctg cag cag 294  
 Met Ala Phe Asn Asp Leu Leu Gln Gln  
 1 5  
 gtg ggg ggt gtc ggc cgc ttc cag cag atc cag gtc acc ctg gtc gtc 342  
 Val Gly Gly Val Gly Arg Phe Gln Gln Ile Gln Val Thr Leu Val Val

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ctc ccc ctg ctc ctg atg gct tct cac aac acc ctg cag aac ttc act				390
Leu Pro Leu Leu Leu Met Ala Ser His Asn Thr Leu Gln Asn Phe Thr				
30	35	40		
gct gcc atc cct acc cac cac tgc cgc ccg cct gcc gat gcc aac ctc				438
Ala Ala Ile Pro Thr His His Cys Arg Pro Pro Ala Asp Ala Asn Leu				
45	50	55		
agc aag aac ggg ggg ctg gag gtc tgg ctg ccc cgg gac agg cag ggg				486
Ser Lys Asn Gly Gly Leu Glu Val Trp Leu Pro Arg Asp Arg Gln Gly				
60	65	70		
cag cct gag tcc tgc ctc cgc ttc acc tcc ccg cag tgg gga ctg ccc				534
Gln Pro Glu Ser Cys Leu Arg Phe Thr Ser Pro Gln Trp Gly Leu Pro				
75	80	85		
ttt ctc aat ggc aca gaa gcc aat ggc aca ggg gcc aca gag ccc tgc				582
Phe Leu Asn Gly Thr Glu Ala Asn Gly Thr Gly Ala Thr Glu Pro Cys				
90	95	100	105	
acc gat ggc tgg atc tat gac aac agc acc ttc cca tct acc atc gtg				630
Thr Asp Gly Trp Ile Tyr Asp Asn Ser Thr Phe Pro Ser Thr Ile Val				
110	115	120		
act gag tgg gac ctt gtg tgc tct cac agg gcc cta cgc cag ctg gcc				678
Thr Glu Trp Asp Leu Val Cys Ser His Arg Ala Leu Arg Gln Leu Ala				
125	130	135		
cag tcc ttg tac atg gtg ggg gtg ctg ctc gga gcc atg gtg ttc ggc				726
Gln Ser Leu Tyr Met Val Gly Val Leu Leu Gly Ala Met Val Phe Gly				
140	145	150		
tac ctt gca gac agg cta ggc cgc ccg aag gta ctc atc ttg aac tac				774
Tyr Leu Ala Asp Arg Leu Gly Arg Arg Lys Val Leu Ile Leu Asn Tyr				
155	160	165		
ctg cag aca gct gtg tca ggg acc tgc gca gcc ttc gca ccc aac ttc				822
Leu Gln Thr Ala Val Ser Gly Thr Cys Ala Ala Phe Ala Pro Asn Phe				
170	175	180	185	
ccc atc tac tgc gcc ttc cgg ctc ctc tcc ggc atg gct ctg gct ggc				870
Pro Ile Tyr Cys Ala Phe Arg Leu Leu Ser Gly Met Ala Leu Ala Gly				
190	195	200		
atc tcc ctc aac tgc atg aca ctg aat gtg gag tgg atg ccc att cac				918
Ile Ser Leu Asn Cys Met Thr Leu Asn Val Glu Trp Met Pro Ile His				
205	210	215		
aca cgg gcc tgc gtg ggc acc ttg att ggc tat gtc tac agc ctg ggc				966
Thr Arg Ala Cys Val Gly Thr Leu Ile Gly Tyr Val Tyr Ser Leu Gly				
220	225	230		
cag ttc ctc ctg gct ggt gtg gcc tac gct gtg ccc cac tgg cgc cac				1014
Gln Phe Leu Leu Ala Gly Val Ala Tyr Ala Val Pro His Trp Arg His				
235	240	245		

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ctg cag cta ctg gtc tct gcg cct ttt ttt gcc ttc ttc atc tac tcc 1062  
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 250 255 260 265  
 tgg ttd ttc att gag tcg gcc cgc tgg cac tcc tcc tcc ggg agg ctg 1110  
 Trp Phe Phe Ile Glu Ser Ala Arg Trp His Ser Ser Ser Gly Arg Leu  
 270 275 280  
 gac ctc acc ctg agg gcc ctg cag aga gtc gcc cgg atc aat ggg aag 1158  
 Asp Leu Thr Leu Arg Ala Leu Gln Arg Val Ala Arg Ile Asn Gly Lys  
 285 290 295  
 cgg gaa gaa gga gcc aaa ttg agt atg gag gta ctc cgg gcc agt ctg 1206  
 Arg Glu Glu Gly Ala Lys Leu Ser Met Glu Val Leu Arg Ala Ser Leu  
 300 305 310  
 cag aag gag ctg acc atg ggc aaa ggc cag gca tcg gcc atg gag ctg 1254  
 Gln Lys Glu Leu Thr Met Gly Lys Gly Gln Ala Ser Ala Met Glu Leu  
 315 320 325  
 ctg cgc tgc ccc acc ctc cgc cac ctc ttc ctc tgc ctc tcc atg ctg 1302  
 Leu Arg Cys Pro Thr Leu Arg His Leu Phe Leu Cys Leu Ser Met Leu  
 330 335 340 345  
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 Trp Phe Ala Thr Ser Phe Ala Tyr Tyr Gly Leu Val Met Asp Leu Gln  
 350 355 360  
 ggc ttt gga gtc agc atc tac cta atc cag gtg atc ttt ggt gct gtg 1398  
 Gly Phe Gly Val Ser Ile Tyr Leu Ile Gln Val Ile Phe Gly Ala Val  
 365 370 375  
 gac ctg cct gcc aag ctt gtg ggc ttc ctt gtc atc aac tcc ctg ggt 1446  
 Asp Leu Pro Ala Lys Leu Val Gly Phe Leu Val Ile Asn Ser Leu Gly  
 380 385 390  
 cgc cgg cct gcc cag atg gct gca ctg ctg ctg gca ggc atc tgc atc 1494  
 Arg Arg Pro Ala Gln Met Ala Ala Leu Leu Leu Ala Gly Ile Cys Ile  
 395 400 405  
 ctg ctc aat ggg gtg ata ccc cag gac cag tcc att gtc cga acc tct 1542  
 Leu Leu Asn Gly Val Ile Pro Gln Asp Gln Ser Ile Val Arg Thr Ser  
 410 415 420 425  
 ctt gct gtg ctg ggg aag ggt tgt ctg gct gcc tcc ttc aac tgc atc 1590  
 Leu Ala Val Leu Gly Lys Gly Cys Leu Ala Ala Ser Phe Asn Cys Ile  
 430 435 440  
 ttc ctg tat act ggg gaa ctg tat ccc aca atg atc cgg cag aca ggc 1638  
 Phe Leu Tyr Thr Gly Glu Leu Tyr Pro Thr Met Ile Arg Gln Thr Gly  
 445 450 455  
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 Met Gly Met Gly Ser Thr Met Ala Arg Val Gly Ser Ile Val Ser Pro  
 460 465 470

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 Tyr Gly Ala Val Pro Val Ala Ala Ser Ala Val Thr Val Leu Leu Pro  
 490 495 500 505

gag acc ctg ggc cag cca ctg cca gac acg gtg cag gac ctg gag agc 1830  
 Glu Thr Leu Gly Gln Pro Leu Pro Asp Thr Val Gln Asp Leu Glu Ser  
 510 515 520

agg tgg gcc ccc act cag aaa gaa gca ggg ata tat ccc agg aaa ggg 1878  
 Arg Trp Ala Pro Thr Gln Lys Glu Ala Gly Ile Tyr Pro Arg Lys Gly  
 525 530 535

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 Lys Gln Thr Arg Gln Gln Gln Glu His Gln Lys Tyr Met Val Pro Leu  
 540 545 550

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 Gln Ala Ser Ala Gln Glu Lys Asn Gly Leu  
 555 560

tacagaacccc taaagggagg gaaggtccta caggtctccg gccacccaca caaggaggag 2036  
 gaagaggaaa tggtagacca agtgtggggg ttgtggttca ggaaagcatc ttcccagggg 2096  
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 20 25 30  
 Ser His Asn Thr Leu Gln Asn Phe Thr Ala Ala Ile Pro Thr His His  
 35 40 45  
 Cys Arg Pro Pro Ala Asp Ala Asn Leu Ser Lys Asn Gly Gly Leu Glu  
 50 55 60  
 Val Trp Leu Pro Arg Asp Arg Gln Gly Gln Pro Glu Ser Cys Leu Arg  
 65 70 75 80  
 Phe Thr Ser Pro Gln Trp Gly Leu Pro Phe Leu Asn Gly Thr Glu Ala  
 85 90 95  
 Asn Gly Thr Gly Ala Thr Glu Pro Cys Thr Asp Gly Trp Ile Tyr Asp  
 100 105 110  
 Asn Ser Thr Phe Pro Ser Thr Ile Val Thr Glu Trp Asp Leu Val Cys  
 115 120 125  
 Ser His Arg Ala Leu Arg Gln Leu Ala Gln Ser Leu Tyr Met Val Gly  
 130 135 140  
 Val Leu Leu Gly Ala Met Val Phe Gly Tyr Leu Ala Asp Arg Leu Gly  
 145 150 155 160  
 Arg Arg Lys Val Leu Ile Leu Asn Tyr Leu Gln Thr Ala Val Ser Gly  
 165 170 175

*Sub  
B  
Unit*



Thr Cys Ala Ala Phe Ala Pro Asn Phe Pro Ile Tyr Cys Ala Phe Arg  
 180 185 190  
 Leu Leu Ser Gly Met Ala Leu Ala Gly Ile Ser Leu Asn Cys Met Thr  
 195 200 205  
 Leu Asn Val Glu Trp Met Pro Ile His Thr Arg Ala Cys Val Gly Thr  
 210 215 220  
 Leu Ile Gly Tyr Val Tyr Ser Leu Gly Gln Phe Leu Leu Ala Gly Val  
 225 230 235 240  
 Ala Tyr Ala Val Pro His Trp Arg His Leu Gln Leu Leu Val Ser Ala  
 245 250 255  
 Pro Phe Phe Ala Phe Phe Ile Tyr Ser Trp Phe Phe Ile Glu Ser Ala  
 260 265 270  
 Arg Trp His Ser Ser Ser Gly Arg Leu Asp Leu Thr Leu Arg Ala Leu  
 275 280 285  
 Gln Arg Val Ala Arg Ile Asn Gly Lys Arg Glu Glu Gly Ala Lys Leu  
 290 295 300  
 Ser Met Glu Val Leu Arg Ala Ser Leu Gln Lys Glu Leu Thr Met Gly  
 305 310 315 320  
 Lys Gly Gln Ala Ser Ala Met Glu Leu Leu Arg Cys Pro Thr Leu Arg  
 325 330 335  
 His Leu Phe Leu Cys Leu Ser Met Leu Trp Phe Ala Thr Ser Phe Ala  
 340 345 350  
 Tyr Tyr Gly Leu Val Met Asp Leu Gln Gly Phe Gly Val Ser Ile Tyr  
 355 360 365  
 Leu Ile Gln Val Ile Phe Gly Ala Val Asp Leu Pro Ala Lys Leu Val  
 370 375 380  
 Gly Phe Leu Val Ile Asn Ser Leu Gly Arg Arg Pro Ala Gln Met Ala  
 385 390 395 400  
 Ala Leu Leu Leu Ala Gly Ile Cys Ile Leu Leu Asn Gly Val Ile Pro  
 405 410 415  
 Gln Asp Gln Ser Ile Val Arg Thr Ser Leu Ala Val Leu Gly Lys Gly  
 420 425 430  
 Cys Leu Ala Ala Ser Phe Asn Cys Ile Phe Leu Tyr Thr Gly Glu Leu  
 435 440 445  
 Tyr Pro Thr Met Ile Arg Gln Thr Gly Met Gly Met Gly Ser Thr Met  
 450 455 460  
 Ala Arg Val Gly Ser Ile Val Ser Pro Leu Val Ser Met Thr Ala Glu  
 465 470 475 480  
 Leu Tyr Pro Ser Met Pro Leu Phe Ile Tyr Gly Ala Val Pro Val Ala  
 485 490 495  
 Ala Ser Ala Val Thr Val Leu Leu Pro Glu Thr Leu Gly Gln Pro Leu  
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 Pro Asp Thr Val Gln Asp Leu Glu Ser Arg Trp Ala Pro Thr Gln Lys  
 515 520 525  
 Glu Ala Gly Ile Tyr Pro Arg Lys Gly Lys Gln Thr Arg Gln Gln Gln  
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 Asn Gly Leu

Q1

Ser  
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